Response to Office Action of November 17, 2005

Attorney Docket: TUCKB-001A

## Amendments to the Claims:

- 1. (currently amended) A line boring machine for boring holes in a bottom side of a work piece, the line boring machine comprising:
  - a. a bed for receiving the work piece;
  - b. a drill disposed below the bed and vertically traversable thereunder for working the bottom side of the work piece;
  - c. a clamp disposed above the bed and vertically traversable thereabove for fixing a spatial relationship between the bed and the work piece;
    - d. a drill linkage system attached to the drill;
    - e. a clamp linkage system attached to the clamp; and
  - f. a lever <u>mechanically</u> attached to the drill linkage system <u>and</u> <u>mechanically</u> operative to vertically traverse the drill, and the lever mechanically attached to the clamp linkage system and mechanically operative to vertically traverse the clamp such that a clamp downward force is mechanically <u>increased relative to an increasing and proportionally adjusted with respect to a drill upward force.</u>
- 2. (currently amended) The A line boring machine for boring holes in a bottom side of a work piece, the boring machine comprising: of Claim 1
  - a. a bed for receiving the work piece;
  - b. a drill disposed below the bed and vertically traversable thereunder for working the bottom side of the work piece;
  - c. a clamp disposed above the bed and vertically traversable thereabove for fixing a spatial relationship between the bed and the work piece;
    - d. a drill linkage system attached to the drill;
    - e. a clamp linkage system attached to the clamp; and
  - f. a lever attached to the drill linkage system and the clamp linkage system such that a clamp downward force is mechanically and proportionally adjusted with respect to a drill upward force;
  - g. wherein the lever defines a modifier drill pivot, clamp pivot and pedal portion, the lever is rotatable about the clamp pivot, the clamp pivot is vertically traversable and interposed between the drill modifier pivot and the pedal portion, the

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lever is attached to the <u>drill modifier</u> linkage system at the <u>drill modifier</u> pivot, the lever is attached to the clamp linkage system at the clamp pivot.

- 3. (currently amended) The line boring machine of Claim 2Claim 1 wherein the bed defines a work pattern, the work pattern being at least one through-hole wherein the work pattern is capable of passing at least a portion of the drill modifier therethrough.
- 4. (currently amended) The line boring machine of Claim 2 Claim 1 wherein the drill modifier pivot is biased to a down position.
- 5. (currently amended) The line boring machine of Claim 4 wherein the <u>drill</u> modifier pivot is downwardly biased with a weight of the modifier.
- 6. (currently amended) The line boring machine of Claim 4 wherein the clamp pivot is biased to an up position.
- 7. (currently amended) The line boring machine of Claim 6 wherein the <u>drill</u> modifier pivot is <u>downwardly upwardly</u> biased with a spring.
- 8. (currently amended) The line boring machine of Claim 6 wherein an amount of the downward bias on of the drill modifier pivot is greater less than an amount of upward bias on the of the clamp pivot.
- 9. (currently amended) The line boring machine of Claim 2 Claim 1 wherein the clamp linkage system is at least one pull cable attached to the clamp and the lever.
- 10. (currently amended) The line boring machine of Claim 2 Claim-1 wherein the clamp linkage system comprises:
  - a. at least one minor L-link attached to the clamp; and
  - b. at least one major L-link attached to the minor L-link and lever.
- 11. (currently amended) The line boring machine of Claim 10 wherein the minor L-link(s) defines a fixed pivot, first leg and second leg, the first leg(s) of the minor L-link is attached to the clamp, the first and second legs are pivotable about the fixed pivot of the minor L-link, at least one first elongate bar is rotatably attached to the minor L-link(s) second leg(s), the major L-link(s) defines a fixed pivot, first leg and second leg wherein the second leg(s) of the major L-link(s) is rotatably attached to the first elongate bar, the first and second legs of the major L-link are pivotable about the fixed pivot of the major L-link, at least one

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second elongate bar is rotatably attached to the major L-link first leg(s) and the lever at the clamp pivot.

- 12. (currently amended) The line boring machine of <u>Claim 2 Claim 1</u> wherein the clamp linkage system comprises at least one C-link attached to the clamp and the lever.
- 13. (currently amended) The line boring machine of Claim 12 wherein the C-link defines a base having a fixed pivot, first leg and second leg, the base, first leg and second leg are pivotable about the fixed pivot, the second leg is attached to the clamp, and an elongate bar is rotatably attached to the first leg of the C-link and the lever.
- 14. (currently amended) The line boring machine of Claim 2 Claim 1 further comprising a pressure applicator contactable to the pedal portion.
- 15. (currently amended) The line boring machine of Claim 14 wherein the pressure applicator is selected from the group consisting of solenoid, pneumatic cylinder, and hydraulic cylinder.
- 16. (new) The boring machine of Claim 1 wherein the clamp downward force is proportionately increased as the drill upward force is increased such that the clamp downward force is greater than the drill upward force.
- 17. (new) A boring machine for boring holes in a bottom side of a work piece, the line boring machine comprising:
  - a. a bed for receiving the work piece;
  - b. a drill disposed below the bed and vertically traversable thereunder for working the bottom side of the work piece;
  - c. a clamp disposed above the bed and vertically traversable thereabove for fixing a spatial relationship between the bed and the work piece;
    - d. a drill linkage system attached to the drill;
    - e. a clamp linkage system attached to the clamp; and
  - f. a lever rotateably attached to the drill linkage system and the clamp linkage system for self adjusting a clamp downward force with respect to a drill upward force.
- 18. (new) The machine of Claim 17 wherein the clamp downward force is increased as the drill upward force is increased.

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- 19. (new) The boring machine of Claim 17 wherein the clamp downward force is proportionately increased as the drill upward force is increased.
- 20. (new) The boring machine of Claim 17 wherein the clamp downward force is always greater than a drill upward force.
- 21. (new) A method for boring holes in a bottom side of a work piece, the method comprising the steps of:
  - a. providing a boring machine comprising:
    - i. a bed for receiving the work piece;
  - ii. a drill disposed below the bed and vertically traversable thereunder for working the bottom side of the work piece;
  - iii. a clamp disposed above the bed and vertically traversable thereabove for fixing a spatial relationship between the bed and the work piece;
    - iv. a drill linkage system attached to the drill;
    - v. a clamp linkage system attached to the clamp; and
  - vi. a lever attached to the drill linkage system and the clamp linkage system for self adjusting a clamp downward force with respect to a drill upward force;
  - b. actuating the clamp via the lever for applying the clamp downward force on the work piece;
  - c. after actuating the clamp, actuating the drill via the lever for vertically raising the drill toward the work piece; and
  - d. upon contact of the drill to the work piece, transferring a force exerted on the drill by the work piece to the clamp through the lever such that the clamp downward force is increased as the drill upward force is increased.
- 22. (new) The method of Claim 21 wherein the clamp downward force is proportionately increased as the drill upward force is increased.